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Arterial Lines, Central Lines, and Bladder Catheters
Reference Summary

During surgery, doctors need to monitor the patient's body to make the operation as safe as possible.

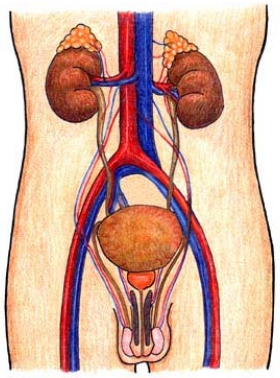
Catheters, tubes inserted into the body, are used for monitoring. Three kinds of catheters used in surgery include:

Arterial lines,

Central lines, and

Bladder catheters.

This reference summary will explain the benefits and risks of these catheters.



Arterial Lines
To help monitor your blood pressure during an operation, an arterial line may be placed in an artery in your arm.

An arterial line is a small catheter that is usually placed close to the wrist. The pulsation of the blood is used to measure the blood pressure. This catheter can also be used to withdraw blood for studies.

An arterial line is a bit more difficult to place than an IV catheter.

It will probably be placed after you go to sleep.

If it is necessary to put in the arterial line before you go to sleep, your arm will be numbed with a local anesthetic (similar to novocaine) to decrease discomfort of insertion.

Risks and Complications
This is a very safe procedure. However, infection of the site, bleeding, damage to the artery, and possibly damage to the hand are very rare but possible.

Central Lines
A central line is another catheter that may be placed to help monitor your heart pressures and provide access to your bloodstream.

This long catheter can be placed through a vein in the neck, through a vein under the collarbone, or less likely, through a vein in the arm. It is important to let your doctor know if you have ever had a broken collarbone.

This may help him or her decide to use a different route.

The catheter is threaded to the biggest vein close to the heart, the "vena cava."

Sometimes it is threaded through the heart into the big blood vessels of the lungs. This helps monitor the heart pressures better.

It may be necessary to keep the central catheter in place after surgery for a few days depending on your medical condition.

Risks and Complications
This is a relatively safe procedure. Infection, bleeding, damage to the veins, arteries, or heart and lungs are extremely rare.

There is also the possibility that while threading the catheter the lung may be

punctured, resulting in an air leak around the lungs. This is known as "pneumothorax."

If this happens, a special tube may be placed around the lung to drain the excess air. This tube is known as a "chest tube." This lung complication is unlikely to take place, but it is possible. A chest x-ray is usually done after the placement of the line to check for this possible complication as well as to check for the exact placement of the line.

Bladder Catheterization
A third type of catheter may be placed in your bladder to help drain your bladder and measure your urine output.

This is placed into the bladder through the "urethra," the specialized duct that connects your bladder to the outside.

The insertion of a bladder catheter may be uncomfortable, but it is not painful.

You should let your doctors know if you have "urethral strictures" (urethral narrowing) or prostate problems as these conditions may make the insertion of the catheter more difficult.

Risks and Complications
Possible risks of the insertion of this catheter include injury to the urethra or bladder, infection, or bleeding. All of these are unlikely to happen.

Summary
Three types of catheters may be used in surgery.

An arterial line may be used to monitor blood pressure during the operation and allow taking blood samples for blood tests.

A central line may be used to monitor heart pressures and provide good access to your bloodstream.

A bladder catheter is used to drain the bladder and to measure urine output.

These catheters are safe and essential for some operations. However, as you have learned, there are some risks and possible complications. Knowing about them will help you and your doctor detect them early if they happen.